R5 FAM GIS Presentation

2015 Intermediate GISS

Mobile Technologys

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ArcGIS On Line (AGOL) Collector

Pilot conducted in 2014

The problem:

- Lack of common platform and the ability to preload specific base map tiles for mobile collection of spatial fire data

- Inability to seamlessly transmit fire data and updates into an established database in near-real-time, accessible to all end users

The pilot:

- Test a COTS data collection app that operates without connectivity and can sync data in near-real-time, with existing data infrastructure

- Utilize an experienced Type 1 IMT and GISSs/SITL to conduct operational tests during the 2014 fire season.

The results:

- Increased data collection, reduced printing, improved map production, increased C&G staff awareness

- IMT Requirements: A GISS and IMT experienced in mobile technology

- Recommendations: An interagency Fire AGOL account, create training and support documents

ArcGIS On Line (AGOL) Collector

- Objectives
  - Evaluate ability to load user background maps
  - Troubleshoot AGOL functions within FAM
  - Evaluate ESRI hosted AGOL service – credit usage & advantages
  - Evaluate/Develop workflows
  - Evaluate data created/obtained
  - Determine use on incident

ArcGIS On Line (AGOL) Collector

Pilot conducted in 2014

Table 2 Line Operations Map: Ops., Division Sup., Air Ops., Situation Unit Leader, Safety

Name	Popup viewable	Editable	Initially Viewable
Labels	No	No	Yes
Fire Points	Yes	Yes	Yes
Structures	Yes	Yes	Varies
Values @ Risk	Yes	No	Yes
Fire Lines	Yes	Yes	Yes
Mgmt Action Pts	Yes	No	Yes
Acct Prop	Yes	Yes	No
TFR	Yes	No	No
Roads	Yes	No	Yes
Closure Pts	Yes	No	No
Closure Area	Yes	No	No
Evacuation Area	Yes	No	No
IR Data	Yes	No	Yes
Fire Perimeter	Yes	No	Yes
Avoidance Area	Yes	No	Yes
Location Track	Yes	Yes	No
Topo Maps	NA	No	No

Table 3 Camp Operations Map: Public Information Officer, IC, Liaison Officer

Name	Popup viewable	Editable	Initially Viewable
Labels	No	No	Yes
Fire Points	Yes	No	Yes
Structures	Yes	No	Varies
Values @ Risk	Yes	No	Yes
Fire Lines	Yes	No	Yes
Mgmt Action Pts	Yes	No	Yes
Acct Prop	Yes	No	No
TFR	Yes	No	No
Roads	Yes	No	Yes
Closure Pts	Yes	No	No
Closure Area	Yes	No	No
Evacuation Area	Yes	No	No
IR Data	Yes	No	Yes
Fire Perimeter	Yes	No	Yes
Avoidance Area	Yes	No	Yes
Location Track	Yes	Yes	No
Map Notes	Yes	Yes	Yes
Topo Maps	NA	No	No

ArcGIS On Line (AGOL) Collector

Pilot conducted in 2014

Table 4 Support Map: Medical, Ground Support Unit Leader, Communications

Name	Popup viewable	Editable	Initially Viewable
Labels	No	No	Yes
Fire Points	Yes	No	Yes
Fire Lines	Yes	No	Yes
Acct Prop	Yes	No	No
Roads	Yes	No	Yes
IR Data	Yes	No	No
Fire Perimeter	Yes	No	Yes
Location Track	Yes	Yes	No
Map Notes	Yes	Yes	Yes
Topo Maps	NA	No	No

Table 5 Public Map: public facing web map

Name	Popup viewable	Editable	Initially Viewable
Labels	No	No	Yes
Fire Points	Yes	No	Yes
Public Interest Points	Yes	No	Yes
Fire Lines	Yes	No	Varies
IR Data	Yes	No	Yes
Closure Pts	Yes	No	Yes
Closure Area	Yes	No	Yes
Evacuation Area	Yes	No	Yes
Fire Perimeter	Yes	No	Yes
World Trans Layer	NA	No	Yes
Topo Maps	NA	No	No

ArcGIS On Line (AGOL) Collector

Pilot conducted in 2014

- Consideration:
    - Member skills – GIS skills, SITL QA/QC, mobile device use, IMTs must consider work load
- Mobile Devices – must have access to enough devices (Type 1 40-50)
- Incident Connectivity – strong connection, field caches data, wireless may be needed
- Activation for non-IMT members -
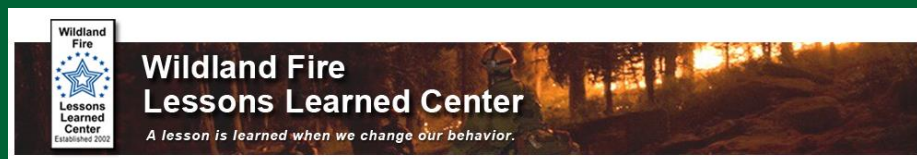
ArcGIS On Line (AGOL) Collector

Next steps:

- Develop Workflows

- Develop training materials and outreach to GISS personnel

- Improve FIMT to facilitate AGOL and Collector use
    - Identify critical components
    - Identify phased approach to improve FIMT

- Final Considerations
    - Creation and funding of FAM account – Esri managed, 10 including GACCs and NIFC
    - Designate national business owner & proposed interagency account operation
    - Support GSC
    - Identify and process with interim solution in 2015

Mobile Technology Activities

Resources:

USFS Mobile Geospatial Technology Advisory Group (MGTAG) - https://ems-team.usda.gov/sites/fs-rim-mgtag/default.aspx CLICK HERE (USFS Only)

Wildland Fire Lessons Learned Center - http://www.wildfirelessons.net/home
CLICK HERE

Wildland Fire Lessons Learned Center
A lesson is learned when we change our behavior.

Chance favors the connected mind	0	2 days ago by Carl Beyerhelm
Don't forget about Garmins...	0	2 days ago by Carl Beyerhelm
Hatch Bill - Geospatial Data coordination and use - full text released	0	5 days ago by Lorri Peltz-Lewis
Fireline Technology Tipsheet and webinar from TNC	0	6 days ago by Esther Godson
FireMapper application (iOS/Android)	0	6 days ago by Autumn Mason
Enhancements for QR code generation tool	1	7 days ago by Carl Beyerhelm
GISS Intermediate Training - CALFIRE/USFS R5 - last notice	0	12 days ago by Lorri Peltz-Lewis
Trouble using QR code to retrieve FTP folder on Android	1	12 days ago by Carl Beyerhelm
Trimble Sub-Meter Bluetooth GPS	0	13 days ago by Andrew Bailey
3 Forest Service IT Project Manager Positions	0	14 days ago by Andrew Bailey
LAST OPPORTUNITY, FEEDBACK NEEDED: ArcGIS Online/Collector Workflows for Wildland Fire GIS	0	20 days ago by Andrew Bailey

Mobile Technology Activities

Sam Lindblom – March 2015

Fireline technology (phones and tablets)

- Mapping
    - ○ Dropbox app- (free)- easy file sharing and cloud storage (photos, maps, etc.)
    - ○ Avenza PDF viewer app- (free)
        - ▪ Android and Apple
        - ▪ Our current favorite
            - • Area calculation
            - • Points/lines/polygons
            - • Geo-referencing photos
            - • Interfaces with ArcMap and Google Earth
    - ○ GPS Bluetooth and Wifi tethering
        - ▪ Tether (via Bluetooth) to tablets/phones in combination with Avenza or other GPS apps (must have maps on the tablet already)
    - ○ GPS Apps
        - ▪ Gaia GPS app ($20)
            - • Excellent variety of background maps
            - • Easy in/out data
            - • Tracks/routes/polygons/points/photos
            - • Can cache maps for offline, otherwise needs cell signal
        - ▪ GPS Kit pro
            - • Similar to GAIA ($10)
        - ▪ GPS Tracks
            - • Similar to GAIA ($8)
        - ▪ MotionX
            - • Similar to GAIA
        - ▪ Google Earth app (free)
            - • A bit clunky but 3D, requires cell signal

Mobile Technology Activities

Sam Lindblom – March 2015

- Weather apps
  - Weather underground
    - Links to RAWS and private weather stations realtime. Super useful to see what's going on with the weather nearby.
  - NOAA Hi-Def Radar ($2)- excellent resolution and a huge variety of information (clouds, lightning, wind speeds, etc)
- Weather sites (bookmark these, put them on your home screen into a folder to keep them at the ready with no searching)
  - NWS
  - RAWS
  - Spot forecast requests
- Tools (apps)
  - Compass (free)
  - Camera
  - Wildland Toolkit ($6)
    - Fuel moisture calculation, probability of ignition
    - RH and dewpoints
    - Checklists
    - Fire behavior
    - Much more
  - Genius Scan+
    - Stop losing those fireline documents! Use genius scan to capture fireline notes into one collated .pdf document, can store on phone or transfer to dropbox, etc.
  - Adobe reader. Great app for digitally signing .pdf documents when you're on the road (free)
- Connections between phones
  - Near field communications via Bluetooth or other
  - Texting information (photos, information)
  - Cautionary tales regarding phones and fireline decisions (they aren't on the radio, so not everyone knows what's being discussed!)
- Over-reliance on technology
  - Battery issues
    - Airplane mode can extend your battery life dramatically
    - Having chargers everywhere (one in the truck, one in the engine, one in your pack, one everywhere...!)
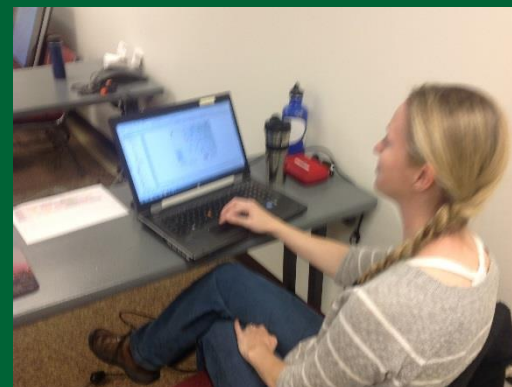
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Mobile Technology Activities

Other items to watch for:

Air Attack….

READs….

Dispatch…

Etc…

Mobile Technology Activities

EGP iPad demo if there it time…

QUESTIONS

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